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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,368	10/18/1999	GERARD FRANCIS MCGLINCHY	T0461/7003	2702
7590	09/01/2004		EXAMINER	
STEVEN J HENRY C/O WOLF GREENFIELD & SACKS PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 022102211			NGUYEN, HIEP	
			ART UNIT	PAPER NUMBER
			2816	
			DATE MAILED: 09/01/2004	

Please find below and/or attached an Office communication concerning this application or proceeding.

AP

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/420,368	MCGLINCHEY, GERARD FRANCIS
	Examiner Hiem Nguyen	Art Unit 2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 August 2004.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3,7-11,14,15 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3,7-11,14,15 and 19-21 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 18 October 1999 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

This is responsive to the amendment filed on 08-05-04. The finality of the previous Office Action has been withdrawn.

### *Drawings*

Figures 5, 6 and 8 are objected to because the **reference designators are not readable**. Because of this reason, the disclosures in the specification cannot be correlated to the drawings. In order to have this application processed properly, the Applicant is requested to submit better drawings.

### *Specification*

The disclosure is objected to because of the following informalities: The disclosure “**the termination elements are coupled to the mid-point termination voltage**” in the specification, lines 15-18, page 7 is confusing. Assume that the termination elements are elements (53) and (54) in figure 5 or 6, it is not seen that that elements (53) and (54) are coupled to the **mid-point termination voltage (Vmid)**. In fact, termination elements (53) and (54) are coupled to the outputs of the current source driver (52) and voltage source driver (51). Figure 6 shows the mid-point voltage (Vmid) but this mid-point voltage is not related to the **termination elements (53) and (54)** as disclosed. The Applicant is requested show in the drawing the **termination elements** that are coupled to the **mid-point termination voltage**”. The disclosure “**while the voltage source maintains the second pair of terminals of the termination network** at a predetermined, non-zero potential. The predetermined, non-zero potential preferably comprises **one-half of line driver circuit supply voltage**” in page 8 is misleading. In figure 7, only the voltage (Vmid) is seen to be “biased” at **one-half of line driver circuit supply voltage**. There is no connection seen between the voltage (Vmid) and the voltage applied to the second pair of terminals of the termination network.

The disclosure “**In one aspect of the invention, the switching means comprises a first input** for enabling and disabling the **first driving means** and **a second input** for enabling and disabling the **second driving means**, wherein, when one of the first or second driving means

is enabled, the other driving means is disabled” in page 6, lines 23-28 is misleading for the following reasons:

1. There is no switching means, “a first input” and “a second input” shown in the drawing (figures 5 or 6).
2. Regarding to figures 5 and 6, there is only one “Enable” signal applied to the first driving means (52). The second driving means (51) is always in the ON condition and has no enable/disable input.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 and 21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 1, the recitation “wherein the driver circuit operates to limit a voltage at the output to about **one-half of the supply voltage**” is not described in the specification.

Regarding claim 21, the recitation “limiting the **output voltage** to about **one-half of a supply voltage** for the driver circuit” is not described in the specification.

Claims 11 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In this instance, the specification fails to explain how the voltage source maintains the second pair of terminals of

the termination network at predetermined, non-zero potential comprising **one-half of line driver circuit supply voltage**.

Claims 2, 3, 7, 14, 15, 19 and 20 are also rejected under 35 U.S.C. 112, first paragraph because of the technical deficiencies of claims 1 and 11.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 7-11, 14, 15, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification is required.

Regarding claims 1 and 2, the recitation “at least one control signal for **selecting between the first and second driving means**” is indefinite because it is misdescriptive. Figures 5, 6 and 6A of the present application show that there is **only one** “Enable” signal that is applied to the first driving means (52) for enabling or disabling it. The second driving means (51) has **no control signal** applied to thus, the second driving means cannot be not selected. The same analysis is true for claim 2.

Regarding claim 3, the recitation “a **logic control input** signal for enabling and disabling the **first driving means**; and a **logical complement** of the logic control signal for enabling and disabling the **second driving means**” is indefinite because it is misdescriptive. Figure 5 or 6 or 6A shows **only one** control signal “Enable” applied to the first driving device (51). There is no “a logic **complement** of the logic control signal” shown.

Regarding claim 8, the recitation “at least one control signal for **selecting between the bridge current driver and the voltage driver**, such that, when the bridge current driver is selected, the **terminating elements are coupled to the mid-point termination voltage** and the lines are driven from the bridge current driver; and when the **voltage driver is selected**, the bridge current driver is disabled and the terminating elements are coupled to the voltage driver” is indefinite because it is misdescriptive for the following reasons:

1. Only the bridge current driver (52) is enabled/disabled.

2. The voltage driver (51) cannot be selected because there is no selecting signal applied to the voltage driver.
3. The terminating elements (53) and (54) are connected to the **outputs** of the element (52) or (51), not to the voltage (Vmid) as recited.

Regarding claim 11, the recitation “wherein the line driver circuit...one-half of the line driver supply voltage” on lines 5-10 is indefinite because it is misdescriptive. There is no first and second mode of operations because figure 5 or 6 shows that the voltage source (51) is **constantly** “ON”. No control signal is seen applied to the voltage source (51). It is not clear what the “non-zero potential” is meant by and how the voltage source (51) can maintain the “second pair of terminals of the termination network” at the non-zero potential which is **one half of the line driver circuit voltage**.

Regarding claim 14 the recitation “wherein the first mode of operation comprises voltage source drive mode” is indefinite because it is misdescriptive. As mention above and according to figure 5 or 6, the voltage source (51) cannot be selected because the voltage source (51) receives no mode control signal.

Claim 15 is indefinite because it is misdescriptive. The voltage source (51) is always activated during the “first and second modes”. The recitation “the first configuration” lacks antecedent basis.

Regarding claim 21, the recitations “the first mode of operation” and “the second mode of operation” are indefinite because it is not clear how the two modes of operation can be selected. The recitation “limiting the **output voltage** to about **one-half of a supply voltage** for the driver circuit” is indefinite because it is not clear how the output voltage can be limited to about one-half of a supply voltage as recited.

Claims 7, 9, 10, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph because of the technical deficiencies of claims 1, 8 and 11.

#### *Response to Arguments*

In the Remarks, page 8, the Applicant argues that “There, it is very clear from Figs. 6A and 6B that the **terminating elements are coupled to the mid-point termination voltage**. This was described in detail in response to the Office Action of August 11, 2003”. This

argument is not relevant because according to figures 5 or 6, the termination elements (53) and (54) are connected to the **outputs** of the voltage source (51) and the current source (52) and it is not seen that the termination elements are coupled to the mid-point termination voltage (Vm<sub>mid</sub> in figure 6). The response to the Office Action of August 11, 2003 and the specification fail to explain how termination elements (53), (54) can be coupled to the mid-point termination voltage (Vm<sub>mid</sub>).

### ***Conclusion***

In view of the significant 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraph indefiniteness issues noted above, no prior art could be applied by the examiner at this time since the scope and meaning of the claims cannot be determined. This is not an indication of allowance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

08-26-04



TUAN T. LAM  
PRIMARY EXAMINER